Title of Instructional Materials: Pearson - CME Project Alg I

Grade Level: Algebra I

Summary of Pearson - CME Project Alg I

Overall Rating: ☐ Weak (1-2) ☒ Moderate (2-3) ☐ Strong (3-4) **Summary / Justification / Evidence:** The text is strong in its development of conceptual skills and procedures, but the connections between topics are weak.	Important Mathematical Ideas: ☐ Weak (1-2) ☒ Moderate (2-3) ☐ Strong (3-4) **Summary / Justification / Evidence:** This text develops important mathematical ideas conceptually; however, they do not always integrate it with a real-life context.
Skills and Procedures: ☐ Weak (1-2) ☒ Moderate (2-3) ☐ Strong (3-4) **Summary / Justification / Evidence:** Problem sets integrate ideas and are not isolated skills (p. 323-326). They are embedded in problem situations.	Mathematical Relationships: ☒ Weak (1-2) ☐ Moderate (2-3) ☐ Strong (3-4) **Summary / Justification / Evidence:** The isolation of some concepts and procedures because of the order or presentation prohibit the student from building connections between mathematical ideas; thus, they are not forming appropriate relationships.

Pearson - CME Project

Alg I

↳ Think they are creating some Com. Core lessons/activities for things that are not included but these were not included for review so could not judge them

↳ NOT impressed

Seems to be stretching to cover material & not really covering much of it

↳ examples + discussion lacking

↳ Would NOT recommend

INDIANA'S EDUCATION ROUNDTABLE 2010

Instructional Materials Analysis and Selection

Phase 3: Assessing Content Alignment to the Common Core State Standards for Mathematics

Traditional Pathway for High School: Algebra I

a project of
The Charles A. Dana Center
at the University of Texas at Austin

Instructional Materials Analysis and Selection

Phase 3:

Assessing Content Alignment to the Common Core State Standards for Mathematics

A project of
The Indiana Education Roundtable, The Indiana Department of Education,
and
The Charles A. Dana Center at The University of Texas at Austin

2010–2011

Reviewed By: [redacted]

Title of Instructional Materials: Pearson CME Project - Alg I

ALGEBRA I — NUMBER AND QUANTITY (N)

The Real Number System (N-RN)

Extend the properties of exponents to rational exponents.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
N-RN.1 Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(51/3)3 = 5(^{1/3})^3$ to hold, so $(5^{1/3})^3$ must equal 5.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 5.5-5.5 CL. A.-#1 NOT COVERED!	Important Mathematical Ideas: 0 (1 2 3 4) Skills and Procedures: 0 (1 2 3 4) Mathematical Relationships: 0 (1 2 3 4) **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating: 0 (1 2 3 4)

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — NUMBER AND QUANTITY (N)

The Real Number System (N-RN)

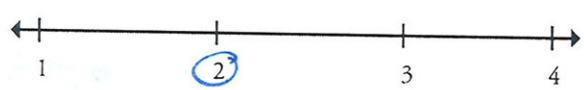
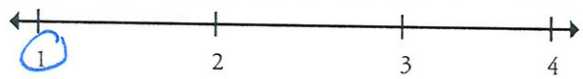
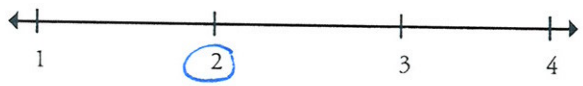
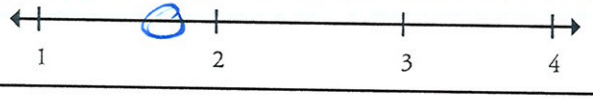
Extend the properties of exponents to rational exponents.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-RN.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 6.11 CC: A17	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Doesn't speak of how to rewrite w/ rational exponents Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — NUMBER AND QUANTITY (N)

The Real Number System (N-RN)

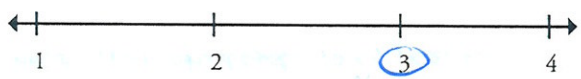
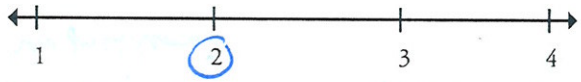
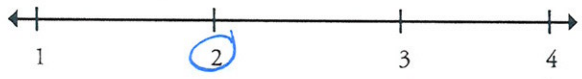
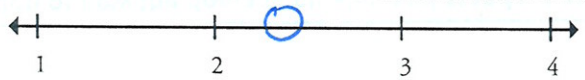
Use properties of rational and irrational numbers.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-RN.3 Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 1.13 1.15 6.10 CCA1.6	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** ch Ch 6, defines rat + irr, but never explains properties w/ operations just has problems **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** No discussion — so how are students to "explain why?" Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — NUMBER AND QUANTITY (N)

Quantities (N-Q)

Reason quantitatively and use units to solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-Q.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.* Note: Foundation for work with expressions, equations and functions.	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
Indicate the chapter(s), section(s), and/or page(s) reviewed. 1.13 | Ch 4 Project 2.17 | 8.7 Ex 4-7 3.4 | 8.11 3.7 3.9 3.15 4.3 4.8	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Weren't really choosing units
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — NUMBER AND QUANTITY (N)

Quantities (N-Q)

Reason quantitatively and use units to solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-Q.2 Define appropriate quantities for the purpose of descriptive modeling.* Note: Foundation for work with expressions, equations and functions. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 4.3	Important Mathematical Ideas: 1 2 3 4 (2) Skills and Procedures: 1 2 3 4 (2) Mathematical Relationships: 1 2 3 4 (2) **Summary / Justification / Evidence** Not sure we are really defining appropriate quantities... just lesson on rate of change **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating: 1 2 3 4 (2)

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — NUMBER AND QUANTITY (N)

Quantities (N-Q)

Reason quantitatively and use units to solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
N-Q.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.* Note: Foundation for work with expressions, equations and functions. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 3.7 Histogram & Stem+Leaf Plot 4.15 Linear trend, Scatterplots	Important Mathematical Ideas: 1 2 3 4 (1 circled) Skills and Procedures: 1 2 3 4 (1 circled) Mathematical Relationships: 1 2 3 4 (2 circled) **Summary / Justification / Evidence** line of best fit closest to mtg standard **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** No discussion of level of accuracy Overall Rating: 1 2 3 4 (0 circled)

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Interpret the structure of expressions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
A-SSE.1a 1. Interpret expressions that represent a quantity in terms of its context.* a. Interpret parts of an expression, such as terms, factors, and coefficients. Note: Linear, exponential, quadratic. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 2.2-2.3, 2.5, 2.17, 3.3, 4.6, 7.1-7.2, 7.5, 7.7, 7.8, 7.10, 8.4, 7.1, 7.2, 7.5, 7.7, 7.8, 7.10 (2)	Important Mathematical Ideas: 1 **2** 3 4 Skills and Procedures: 1 2 **3** 4 Mathematical Relationships: 1 2 **3** 4 **Summary / Justification / Evidence** Covers terms + how to use **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** doesn't have student interpret in terms of context Overall Rating: 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Interpret the structure of expressions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
A-SSE.1b 1. Interpret expressions that represent a quantity in terms of its context.* b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.* Note: Linear, exponential, quadratic. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 2.5 Ex 5 3.3 4.6 7.10 8.14	Important Mathematical Ideas: 1 **2** 3 4 Skills and Procedures: 1 **2** 3 4 Mathematical Relationships: **1** 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Again, not really interpreting No literal eqs Overall Rating: 1 **2** 3 4

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Interpret the structure of expressions.

A-SSE.2

Use the structure of an expression to identify ways to rewrite it. *For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.*

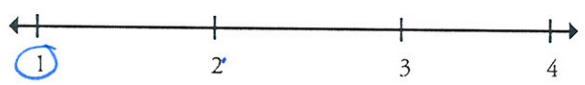
Note: Linear, exponential, quadratic.

Indicate the chapter(s), section(s), and/or page(s) reviewed.

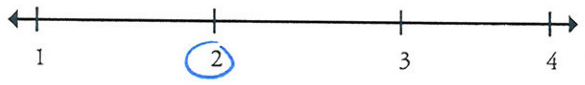
2.9
4.6
7.2
7.3
7.9
7.10
7.11

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

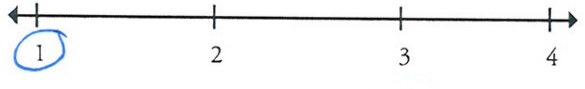
Important Mathematical Ideas



Skills and Procedures



Mathematical Relationships



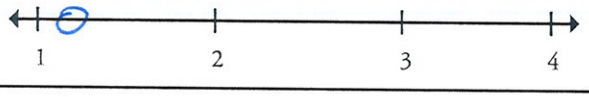
Summary / Justification / Evidence

How to change linear covered

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

No exponent rules
Not different types though
No quadratics
No exponential

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Write expressions in equivalent forms to solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
A-SSE.3a 3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.* a. Factor a quadratic expression to reveal the zeros of the function it defines. Note: Quadratic and exponential. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 7.2 7.3 7.4 7.10 7.11 8.6	Important Mathematical Ideas: 1 2 (3) 4 Skills and Procedures: 1 (2) (3) 4 Mathematical Relationships: 1 2 (3) 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating: 1 2 (3) 4

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Write expressions in equivalent forms to solve problems.

A-SSE.3b

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*

   b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.

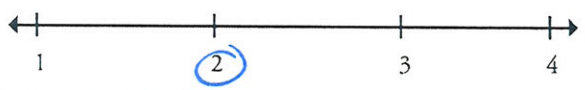
Note: Quadratic and exponential.

Indicate the chapter(s), section(s), and/or page(s) reviewed.

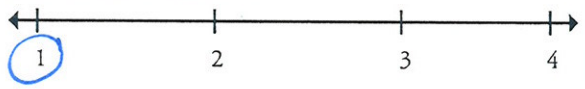
7.12
8.6
8.7

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

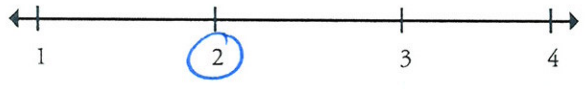
Important Mathematical Ideas



Skills and Procedures



Mathematical Relationships



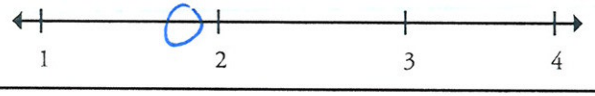
Summary / Justification / Evidence

Some discussion of max & min

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

No complete the square shown

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Write expressions in equivalent forms to solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-SSE.3c 3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.* c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression* 1.15^t *can be rewritten as* $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ *to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.* Note: Quadratic and exponential. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 6.13 Ex 11	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — ALGEBRA (A)

Arithmetic with Polynomials and Rational Expressions (A-APR)

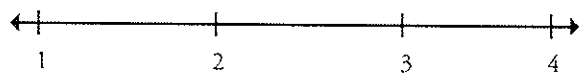
Perform arithmetic operations on polynomials.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
A-APR.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. Note: Linear and quadratic. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 7.1 Ex 14 7.4 Ex 10 7.18 Ex 18	Important Mathematical Ideas: 1 **(2)** 3 4 Skills and Procedures: **(1)** 2 3 4 Mathematical Relationships: **(1)** 2 3 4 **Summary / Justification / Evidence** just taught by expanding expressions in 3 problems w/o discussion **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating: 1 **(2)** 3 4

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA I — ALGEBRA (A)

Creating Equations (A-CED)

Create equations that describe numbers or relationships.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
A-CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.** Note: Linear, quadratic, and exponential (integer inputs only). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: [redacted]

Title of Instructional Materials: CME - Algebra 1

2+

Documenting Alignment to the Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.

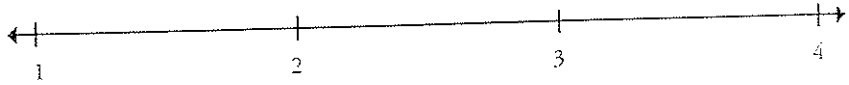
Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

2. Reason abstractly and quantitatively.

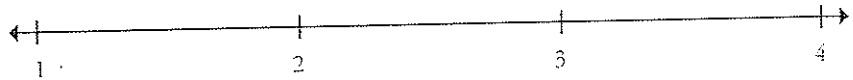
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



CONTENT STANDARDS RUBRIC

Algebra 1

The Real Number System N -RN

Extend the properties of exponents to rational exponents.

1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define 51/3 to be the cube root of 5 because we want (51/3)3 = 5(1/3)3 to hold, so (51/3)3 must equal 5.* Alg 2

2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.

Use properties of rational and irrational numbers.

3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational

	Development	Connections	Rigor and Depth	Overall/Evidence
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?	Are ideas expanded to other math ideas (4) or developed independently of each other (1)?	Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?	Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?	Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?	Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?	Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	
Missing or weak content from this standard	RN -1 Alg 2 RN -2 Alg 2 claim 6, 11 is incorrect RN -3			Missing

Overall for this Standard: 1

CONTENT STANDARDS RUBRIC
Algebra 1

Quantities N -Q

Reason quantitatively and use units to solve problems. (Foundation work with expressions, equations, and functions)

1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
2. Define appropriate quantities for the purpose of descriptive modeling.
3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

	Development	Connections	Rigor and Depth	Overall/Evidence
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?	Are ideas expanded to other math ideas (4) or developed independently of each other (1)?	Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?	M. 322327 particularly #9
	4 3 2 1	4 3 2 1	4 3 2 1	
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?	Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?	Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?	Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?	Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	
Missing or weak content from this standard	we units to understand problems,			

Overall for this Standard: 2

CONTENT STANDARDS RUBRIC
Algebra 1

Seeing Structure in Expressions A-SSE

Interpret the structure of expressions

1. Interpret expressions that represent a quantity in terms of its context. ← p. 568 Discussion #1

a. Interpret parts of an expression, such as terms, factors, and coefficients.

b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example interpret $P(1+r)^n$ as the product of P and a factor not depending on P.*

2. Use the structure of an expression to identify ways to rewrite it. *For example, see $x_4^2 - y_4^2$ as $(x_2^2)^2 - (y_2^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x_2^2 - y_2^2)(x_2^2 + y_2^2)$* 7.2 #6-13 7.12 Ex 2

Write expressions in equivalent forms to solve problems

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. ★

a. Factor a quadratic expression to reveal the zeros of the function it defines.

b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. 8.6

c. Use the properties of exponents to transform expressions forexponential functions. *For example the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*

	Development	Connections	Rigor and Depth	Overall/Evidence
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?	Are ideas expanded to other math ideas (4) or developed independently of each other (1)?	Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?	
	4 **3** 2 1	4 **3** 2 1	4 3 **2** 1	
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?	Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?	Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?	
	4 **3** 2 1	4 3 **2** 1	4 3 **2** 1	
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?	Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?	Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	

Missing or weak content from this standard

Overall for this Standard: 2

CONTENT STANDARDS RUBRIC

Algebra 1

Arithmetic with Polynomials and Rational Expressions A -APR

Perform arithmetic operations on polynomials

1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction,and multiplication; add, subtract, and multiply polynomials.

? How explicit should this be?

	Development	Connections	Rigor and Depth	Overall/Evidence
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?	Are ideas expanded to other math ideas (4) or developed independently of each other (1)?	Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?	
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	4 3 2 1	4 3 2 1	4 3 2 1	
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?	Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?	Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	
Missing or weak content from this standard				

Overall for this Standard: _____

CONTENT STANDARDS RUBRIC
Algebra 1

Creating Equations A -CED

Create equations that describe numbers or relationships

1. Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*
2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*
4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law $V = IR$ to highlight resistance R.*

	Development	Connections	Rigor and Depth	Overall/Evidence
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?	Are ideas expanded to other math ideas (4) or developed independently of each other (1)?	Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	
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	4 3 2 1	4 3 2 1	4 3 2 1	
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?	Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?	Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	

Missing or weak content from this standard: Creating equations arising from functions.

Overall for this Standard: 1

CONTENT STANDARDS RUBRIC

Algebra 1

Reasoning with Equations and Inequalities A -RE I

Understand solving equations as a process of reasoning and explain the reasoning

1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

Solve equations and inequalities in one variable

3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
4. Solve quadratic equations in one variable.

a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)2 = q$ that has the same solutions. Derive the quadratic formula from this form. 7, 12

b. Solve quadratic equations by inspection (e.g., for $x2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.

	Development	Connections	Rigor and Depth	Overall/Evidence
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Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?	Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?	Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?	
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	4 3 2 1	4 3 2 1	4 3 2 1	

Missing or weak content from this standard

Overall for this Standard: _____

CONTENT STANDARDS RUBRIC
Algebra 1

Interpreting Functions F-IF

Understand the concept of a function and use function notation

1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.
2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. 7.1/2.2
3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ for $n \geq 1$.*

	Development	Connections	Rigor and Depth	Overall/Evidence
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	4 3 2 1	4 3 2 1	4 3 2 1	

Missing or weak content from this standard

Overall for this Standard: 2

CONTENT STANDARDS RUBRIC
Algebra 1

Interpreting Functions F-IF

Interpret functions that arise in applications in terms of the context

4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*

5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*

6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

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Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?	Are ideas expanded to other math ideas (4) or developed independently of each other (1)?	Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?	
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Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?	Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?	Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	

Missing or weak content from this standard

Overall for this Standard: _____

DEFINITIONS

DEVELOPMENT – the scaffolding, or logical sequencing of mathematical concepts and ideas

For example:

- ☐ When concepts are introduced, is there a logical sequence of building concepts and skills?
- ☐ Does the text begin by building conceptual understanding prior to teaching procedures?
- ☐ Are concepts introduced informally and formalized after a conceptual foundation has been established?

CONNECTIONS – connecting math ideas to other mathematical ideas, other content areas, and the real world.

For example:

- ☐ Are skills taught in isolation or are procedural proficiency and conceptual understanding interconnected?
- ☐ Are concepts connected to other math concepts? (graphing connects to adding and subtracting)
- ☐ Are concepts connected to other content or real-world applications?

RIGOR AND DEPTH – the cognitive level of questioning, problems, and examples require deeper thinking and understanding.

For example:

- ☐ Is the text just asking for procedural knowledge or does the text require students to think deeper about how to arrive at an answer?
- ☐ Is the student asked to justify or explain their answers, or just write down the answer that they get?

TEXTBOOK ADOPTION – ALGEBRA 1
SUMMARY REVIEW

Company/Title:	Grade level or course:
Teacher Name:	School:

	Development	Connections	Rigor and Depth	Justification
Mathematical Ideas 2	Are ideas conceptually developed (4) or approached from a simple skill level (1)? 1 2 3 4	Are ideas expanded to other math ideas (4) or developed independent of each other (1)? 1 2 3 4	Do ideas require extension of important ideas and the use of multiple approaches (4) or simply using procedures and memorization (1)? 1 2 3 4	
Skills and Procedures 2	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)? 1 2 3 4	Are skills and procedures connected to other ideas (4) or treated as discrete skills with no connection (1)? 1 2 3 4	Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)? 1 2 3 4	
Mathematical Relationships 2	Are math relationships evident to build understanding (4) or appear as a series of discrete skills (1)? 1 2 3 4	Are relationships integrated with other ideas (4) or are words wrapped around drill(1)? 1 2 3 4	Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)? 1 2 3 4	

Overall Content Rating	1	2	3	4	Overall Process Rating	1	2	3	4
Rationale:					Rationale:				